

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (currently amended) A crystal-growing furnace, in particular a vertical Bridgman or vertical gradient freeze crystal-growing furnace having a jacket heater [(11, 12)] surrounding the crucible [(6)] coaxially and having a device for regulating the heat output of the jacket heater [(11, 12)], characterized in that a hollow cylindrical body [(2)] made of a heat conducting material is present as a heat bridge between the crucible [(6)] and the jacket heater [(11, 12)]; at least two thermocouples [(32, 35; 33, 34)] which are offset radially relative to one another are provided in a horizontal plane intersecting the jacket heater [(11, 12)] and the crucible [(6)] for measuring a radial temperature difference, the heat output of the jacket heater [(11, 12)] being regulated as a function of the temperature difference.
2. (currently amended) The crystal-growing furnace according to Claim 1, characterized in that at least two jacket heaters [(11, 12)] are provided and are arranged such that they are spaced a distance apart in the axial direction, the heat output of each being adjustable independently of the other, and a pair of thermocouples [(32, 35; 33, 34)] being provided for each jacket heater [(11, 12)].
3. (currently amended) The crystal-growing furnace according to Claim 1 [or 2], characterized in that the hollow cylindrical body [(2)] has at least two boreholes in which two thermocouples [(32, 35; 33, 34)] are provided, radially offset relative to one another, permitting measurement of a radial temperature difference in the hollow cylindrical body, and an electric variable representing this radial temperature difference in the hollow cylindrical body [(2)] is sent to a regulating device for the heat output of the jacket heater [(11, 12)].

4. (currently amended) The crystal-growing furnace according to Claim 3, characterized in that the borehole for the thermocouple [(32, 33)] situated on the outside radially is positioned in the radial direction, and the borehole for the thermocouple [(34, 35)], which is situated on the inside radially, is positioned in the axial direction.
5. (currently amended) The crystal-growing furnace according to Claim 3, characterized in that the thermocouples [(32, 35; 33, 34)] of a pair of thermocouples are connected electrically back to back, so that the differential voltage forms a measure of the temperature difference.
6. (currently amended) A method of regulating the heat output of a jacket heater [(11, 12)] which surrounds the cylindrical core zone of a crystal-growing furnace having a crucible [(6)], in particular a vertical Bridgman or vertical gradient freeze crystal-growing furnace, characterized in that the temperature of the jacket heater [(11, 12)] is regulated at the temperature in a selected point on the central axis of the crucible [(6)].
7. (currently amended) The method of regulating the heat output of a jacket heater [(11, 12)], characterized in that the temperature difference between two radially offset points within the jacket heater [(11, 12)] in a horizontal plane intersecting the jacket heater [(11, 12)] and the crucible [(6)] is determined, and the temperature difference thus determined is adjusted to zero by a corresponding regulation of the heat output of the jacket heater [(11, 12)].
8. (currently amended) The method of regulating the heat output of a jacket heater [(11, 12)] according to Claim 7, characterized in that the crystal-growing furnace is provided with a plurality of heating zones situated one above the other, each defined by a jacket heater [(11, 12)], and the regulation of the heat output of the